

# PATENT SPECIFICATION



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247,005

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## PROVISIONAL SPECIFICATION.

### Improved Combination Tooth and Gum Brush.

I, LOUIS HORWITZ, commonly known as Louis Davies, of 16, Park View Road, Church End, Finchley, London, N. 3, Russian, do hereby declare the nature of this invention to be as follows:—

Made of twin brushes with graduated cut bristles. The brushes are mounted on two branches firmly held together by the action of a spiral spring inserted within the angle between the

branches. Separation of the brushes when cleaning teeth and gum simultaneously is caused by the action of the hand and the branches are prevented from separating too far apart or from breaking away by the resistance of the spring.

Dated this 4th day of February, 1925.

LOUIS HORWITZ.

## COMPLETE SPECIFICATION.

### Improved Combination Tooth and Gum Brush.

I, LOUIS HORWITZ, commonly known as Louis Davies, of 16, Park View Road, Church End, Finchley, London, N. 3, a Russian citizen, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention is for a combination tooth and gum brush and has for one of its objects to provide a construction of brush which will efficiently clean both the teeth and the gums simultaneously.

According to the primary feature of the present invention there is provided a combination tooth and gum brush comprising a handle with two branches which lie side by side but are separate throughout the major portion of their length and are united at one end to each other and to the handle and which branches resiliently resist displacement from each other, and two bristle-carrying heads carried one on each of said branches and arranged with the bristles in the one head directed obliquely towards those in the other head, and all

of the bristles graduated in length transversely of the brush with those bristles in the adjacent parts of the bristle-carrying heads shorter than those in the more remote parts of such heads. Thus, the bristles can be employed to clean the crowns and sides of the teeth and also the adjacent parts of the gums simultaneously, the bristle-carrying heads separating by the pressure of the hand sufficiently to enable them to embrace the requisite amount of surface to be cleaned and to exert thereon sufficient resilient pressure.

In connection with this feature of the invention, it should be mentioned that it has already been proposed to construct a tooth brush with a handle and two branches therefrom which lie more or less side by side but are separate throughout the major portion of their length and are united at one end to each other and to the handle and which branches resiliently resist displacement from each other, and two bristle-carrying heads carried one on each of said branches and arranged with the bristles

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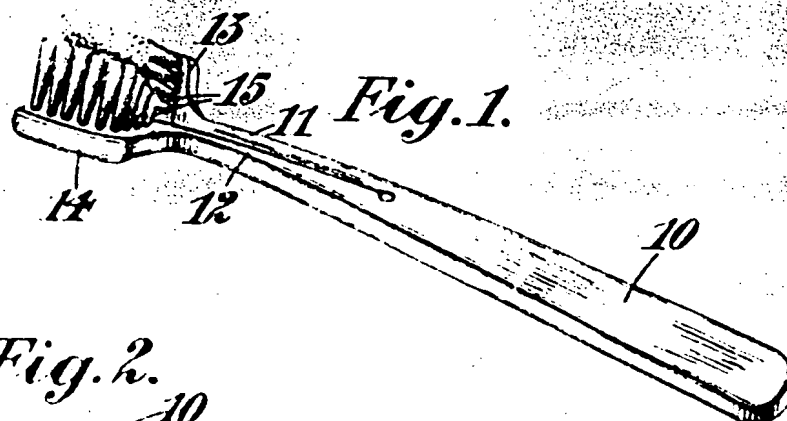


Fig. 2.

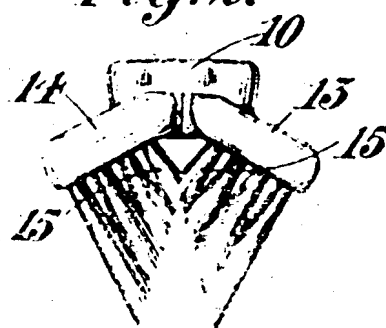


Fig. 5.

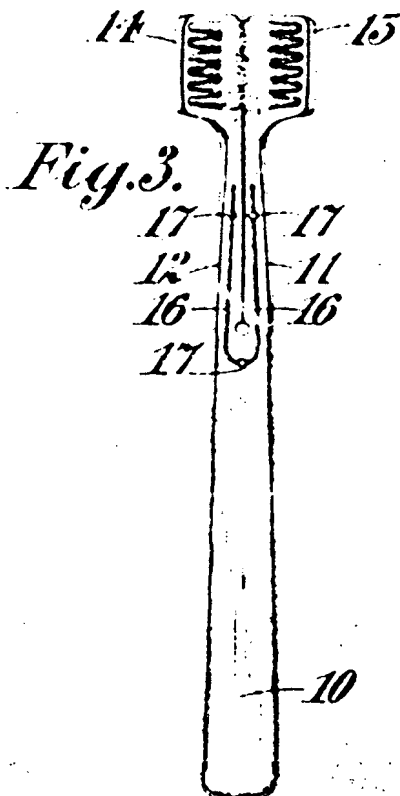
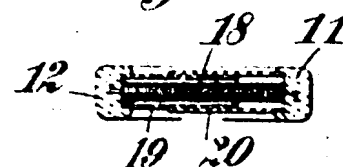
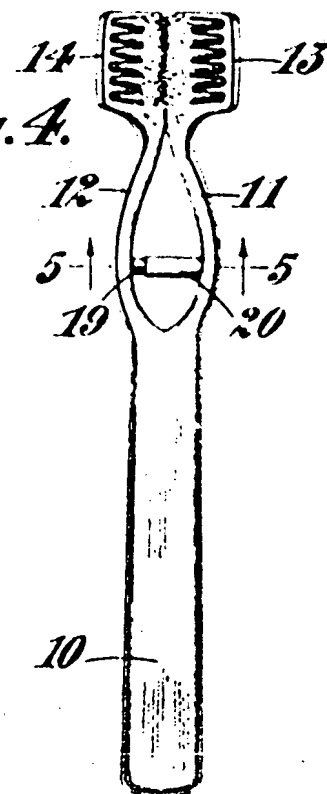


Fig. 4.



This Drawing is a reproduction of the Original on a reduced scale.

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in the one head directed towards those in the other head. In another proposed construction of tooth brush there are no separate branches from the handle, but the bristles are arranged in two sets which are obliquely directed towards each other, the bristles being graduated in length transversely of the brush with those bristles in the adjacent parts of the two sets shorter than those in the more remote parts of such sets.

The branches themselves may be resilient, as has already been proposed, and tend to resist displacement of the bristle-carrying heads from each other. For example the branches may be made of a resilient material but if it is desired to employ a material for the branches the resilience of which is apt to be destroyed by immersing in hot water, then, as has also already been proposed, the branches may be controlled by a spring tending to resist displacement of the bristle-carrying heads from each other. In one construction according to the invention such a spring is of hairpin shape with the legs extending one along each of the aforesaid branches and being at desired, banded in such branches and with the portion of the legs of the spring adjacent to the junction of the branches. In another construction the branches are so shaped that example being apart throughout a portion of their length as always to be separated at the situation of such portions, and a coiled spring is connected between the said separated portions and tends to resist displacement of the bristle-carrying heads from each other. This coiled spring may, at desired, be enclosed by two telescoping members carried one by each of the branches.

In a preferred construction the separated bristle-carrying heads are angularly arranged relatively to each other transversely of the brush with the two sets of bristles converging. This construction, which is in some respects similar to a previously proposed and other brush wherein the bristle-carrying members were pivotally mounted or pivotally connected together and did not branch from a single handle and consequently were not suitable for cleaning the teeth and gums, will be found to be particularly convenient for enabling a wide surface of the teeth and gums to be cleaned by the brush.

For a more complete understanding of the invention there will now be described, by way of example only and with reference to the accompanying drawings, certain constructional forms of brush according to the invention. It

is to be understood, however, that the invention is not restricted to the precise constructional details set forth.

In these drawings:—

Figure 1 is a perspective view of one form of brush according to the invention.

Figure 2 is an end elevation of the brush shown in Figure 1, the parts being shown on a scale larger than that of Figure 1.

Figure 3 is a front elevation of a modified form of brush on the same scale as that of Figure 1.

Figure 4 is a view similar to Figure 3 of another modified construction, and

Figure 5 is a cross-section on the line A-A of Figure 1, the parts being shown on a scale larger than that of Figure 4.

Like reference numerals indicate like parts throughout the drawings.

Referring first to Figures 1 and 2, the brush there illustrated comprises a handle 10 which is divided towards one end into two branches 11 and 12, the extremities of which are termed with heads 13 and 14 respectively carrying the bristles. Referring more particularly to Figure 2, it will be seen that the heads 13 and 14 are angularly arranged relatively to each other transversely of the brush and that the bristles are directed towards each other, being arranged to converge. The bristles are graduated in length transversely of the brush with those tufts 15 in the adjacent parts of the heads 13 and 14 being shorter than the other tufts in the more remote parts of the heads. This graduation in length of the bristles, coupled with their converging arrangement, permits a wide surface to be cleaned by the brush and it will be seen that as the branches are sprung apart due to the pressure of the hand, the branches will open as much as is requisite to embrace considerable portions of the teeth and gums and clean them simultaneously.

In the construction shown in Figures 1 and 2, the resilience of the material constituting the branches 11 and 12 is relied upon for exerting the requisite pressure to tend to resist displacement of the heads 13 and 14 from each other. In the construction shown in Figure 3, however, this resilience of the material is supplemented or replaced by the resilience of a hairpin spring 16 which is preferably sunk in the material of the handle and branches and suitable fastenings 17 may be employed if thought desirable. This spring may be of any convenient metal or other material and it will be seen that its legs are so arranged as to extend along the branches 11 and

12 with the junction of the legs of the spring adjacent to the junction of the said branches.

Instead of employing a hairpin spring as just described, the arrangement shown in Figures 4 and 5 may be employed. In this construction the branches 11 and 12 are bowed apart so that only the heads 13 and 14 abut when the parts are in their raised position. Secured between the branches 11 and 12 is a coiled spring 18 encased by two telescoping members 19 and 20.

It will be appreciated that the springs mentioned above will operate to apply the requisite pressure against the gums and teeth when the heads are sprung apart and will also operate to prevent the heads from separating to too great an extent.

It is to be understood that the invention is not restricted to the precise constructional details set forth, and also that any desired material can be employed for the handle, branches and heads and that these may be made integral or as separate details suitably attached together, as preferred.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is

1. A combination tooth and gum brush, comprising a handle with two branches (for example 11 and 12) which lie side by side but are separate throughout the major portion of their length and are united at one end to each other and to the handle and which branches resiliently resist displacement from each other, and two bristle-carrying heads carried one on each of said branches and arranged with the bristles in the one head directed obliquely towards those in the other head, and all of the bristles graduated in length transversely of the brush with those bristles in the adjacent parts of the bristle-carrying heads shorter than those in the more remote parts of such heads.

2. A brush according to Claim 1, in which the said branches are themselves resilient (for example are of resilient material) and tend to resist displacement of the bristle-carrying heads from each other.

3. A brush according to Claim 1 or Claim 2, in which the said branches are controlled by a spring tending to resist displacement of the bristle-carrying heads from each other.

4. A brush according to Claim 3, in which the spring is of hairpin shape (for example 16) with the legs extending one along each of said branches (for example buried in said branches) and with the junction of the legs of the spring adjacent to the junction of the said branches.

5. A brush according to Claim 3, in which the branches are so shaped (for example bowed apart) throughout a portion of their length as always to be separated at the situation of such portions, and in which a coiled spring (for example 18) is connected between said separated portions and tends to resist displacement of the bristle-carrying heads from each other.

6. A brush according to Claim 5, in which the said spring is encased by two telescoping members (for example 19 and 20) carried one by each of the branches.

7. A brush according to any of the preceding claims, in which the separated bristle-carrying heads are angularly arranged relatively to each other transversely of the brush with the two sets of bristles converging.

8. The combination tooth and gum brush substantially as illustrated in Figures 1 and 2, or in Figure 3, or in Figures 4 and 5 of the accompanying drawings, or substantially as described.

Dated this 20th day of June, 1925.

BOULE, WADE & TENNANT,  
111 & 112, Hatton Garden, London  
E.C. 1.

Chartered Patent Agents.